

A Roaming in
THE ZEITGEIST MOVEMENT DEFINED
REALIZING A NEW TRAIN OF THOUGHT

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Introduction

I have been searching for an answer to a burning question “What is wrong with this world?” all my life.

Growing up in the middle-east, studying Applied Mathematics and then living, working and having kids in North America has given me a vast spectrum of experiences in such short life, so far. Nothing in political, religious or cultural traditions could ever answer this question for me. The Zeitgeist trilogy however, was a different story. By digging my life experiences of war, poverty, politics, religion, science and technology, connecting the dots and putting it all into perspective it not only answered the question, but also gave me direction, to move forward. Coming across The Zeitgeist Movement along with studying Permaculture enabled me to confidently quit my job and start two businesses in pursuit of helping to educate, build resiliency and create abundance.

Now as a student of Environmental Studies at York University, one rare academia with a multi-disciplinary approach, this is my attempt to summarise The Zeitgeist Movement Defined for people who have heard about it and want to genuinely understand it. This paper is not an attempt to convince or convert people who have already made up their minds to oppose it.

Structure of this roaming follows almost entirely the structure of The Zeitgeist Movement Defined¹ and the content is directly extracted from the original text, sometimes in form of paraphrase, but mostly in form of direct quotation. Therefore, citation is also directly extracted from the original text without redundantly mentioning it.

-PART I: INTRODUCTION-

Zeitgeist Movement

“The term ‘zeitgeist’ is defined as the ‘general intellectual, moral and cultural climate of an era.’ The term ‘movement’ simply implies ‘motion’ or change. Therefore, *The Zeitgeist Movement* is an organization that urges change in the dominant intellectual, moral and cultural climate of the time.”

Knowledge

Any idea is evolved from observation, assessment, documentation and integration of existing knowledge. Knowledge grows while communicated between people. When an idea is flowing between us, we filter it through our life experiences, tendencies and dispositions. Collectively, we have created a group mind by transferring knowledge via literature from generation to generation. That is why it is hardly possible to prove and reliably verify the very “origin” of an idea. As Isaac Newton said, “If I have seen further than others, it is by standing upon the shoulders of giants.”² “There is no statement more erroneous than the declaration that ‘this is my idea’”. This statement is usually used in order to seek financial or intellectual reward or credit for an idea while in reality it cannot be proven that it is originated from the person who claims ownership of it. This is simply a by-product of our material culture. This of course does not mean that we should undermine or ignore the fact that many brilliant thinkers and engineers have contributed to the expansion of knowledge by dedication and perseverance. Great gratitude is expressed towards all dedicated minds that contributed and are contributing to an improving world.

Following the same logic, “‘The Zeitgeist Movement’ claims no origination of any idea it promotes”.

¹ Source: Zeitgeist Movement Defined, 2014 (http://www.thezeitgeistmovement.com/uploads/upload/file/19/The_Zeitgeist_Movement_Defined_6_by_9.pdf)

² *The Correspondence of Isaac Newton*, Volume 1, edited by HW Turnbull, 1959, p416

About

“Founded in 2008, The Zeitgeist Movement (TZM) is a sustainability advocacy group that operates through a network of regional chapters, project teams, public events, media expressions and charity operations. TZM's activism is explicitly based on *non-violent* methods of communication with the core focus on *educating* the public about the true *root sources* of ... problems today. [As well as focusing on] the vast *problem solving* and *humanity improving potential* science and technology has now enabled. [And the fact that this potential] goes unapplied due to barriers inherent in the current, established social system.” The Zeitgeist Movement advocates that “socioeconomic system unnecessarily diminishes our public health and inhibits our progress today”. It claims that this “can only be recognized clearly when we take a ... technical or *scientific* perspective of social affairs”. In order to achieve that, we need to “[bypass] our traditional, often blinding familiarities”. TZM works to: Create awareness of problems, Create awareness of their true root causes (and hence logic for resolution), and to express the incredible potential we have to greatly improve the human condition in general, “solving problems which, in fact, have not yet even been realized.”

Focus

TZM's broad actions could be summarized as to *diagnose, educate and create*.

Natural Law/Resource-Based Economy

“A *Natural Law/Resource-Based Economy* is defined as ‘an adaptive socioeconomic system actively derived from direct physical reference to the governing scientific laws of nature.’ Overall, the observation is that through the use of socially targeted research and tested understandings in science and technology we are now able to *logically arrive* at societal approaches which could be profoundly more effective in meeting the needs of the human population. We are now able to dramatically increase public health, better preserve the habitat, create a general material abundance, while also strategically reduce or eliminate many common social problems present today which are sadly considered inalterable by many due to their cultural persistence.”

Train of Thought

“[We need to keep in mind that,] all current applications of technology tend to become obsolete over time. Therefore, what is left can only be a *train of thought* with respect to the underlying causal scientific principles. TZM is hence loyal to this *train of thought*, not figures, institutions or temporal technological advancements. Rather than follow a person or design, TZM follows this *self-generating premise of understanding* and it hence operates in a non-centralized, holographic manner, with this *train of thought* as the origin of influence for action.” We need to have an eye on superstition in academia. “Even so-called ‘scientific’ conclusions ... that with the advent of new information and updated tests, often cannot be held as valid anymore, are still commonly defended due to their mere inclusion in the current cultural tradition. ... Such ‘established institutions’, as they could be called, often wish to maintain permanence due to reasons of ego, power, market income or general psychological comfort.”

Tradition to Emergence

“‘Changing the social system’ is the main goal of TZM. Currently we hold on to tradition when it comes to Political persuasion, market economics, labor-for-income, perpetual inequality, nation states, legal assumptions and many other staples of our current social order” although we have little evidence of their value. We have witnessed vast and accelerating changes in different areas such as technology but our social system has stayed behind. Technically we can end war, crime and poverty, create material abundance and freedom from labor-for-income and even resolve many environmental threats. But this potential is not largely recognized by the public. Even worse, as will be explained later, applying such “efficiency and prosperity stands in direct

opposition to the very mechanics of how our current social system is operating at the core level.” Therefore, unless the socioeconomic tradition changes, “all the life improving and problem resolving possibilities we now have at hand will remain largely dormant.”

-THE SCIENTIFIC WORLDVIEW-

“...The ‘natural laws’ of our world exist whether we choose to recognize them or not. [These laws] were around long before human beings evolved a comprehension to recognize them.” And although one could argue that we still cannot understand all of these laws perfectly, there is enough evidence of “technology and life-altering inventions” around us to show that we have had and are having great progress in understanding it. This ever increasing understanding of natural laws is done through what is called the “scientific method”.

“Unlike historical traditions, where a certain stasis exists with what people believe... this recognition of ‘natural law’ includes characteristics which deeply challenge the assumed stability of beliefs which many hold sacred.” Lots of cynics of Science “reduce its integrity to yet another form of ‘religious faith’, demean its accuracy as ‘cold’ or ‘without spirituality’ or even highlight consequences of applied technology for the worst, such as with the creation of the atomic bomb... [but,] there is no ignoring the incredible power this approach to understanding and harnessing reality has afforded the human race.” We need to be aware that even our scientific conclusions could carry uncertainty. This is helpful to keep a vulnerable state at all times which keeps us from ever becoming dogmatic regarding scientific findings. But even the validation of scientific mistakes or inaccuracies should only come through scientific reasoning and not from “wishful thinking, esoteric fascination” or “faith.” The rules of faith “inherently refuse argument” which makes it difficult to argue. “Science ... holds nothing sacred, [and is] always ready to correct prior false conclusions when new information arises. To take such an inherently uncertain yet still extremely viable and productive approach to one's day to day view of the world requires a very different sensitivity – one that embodies *vulnerability*, not certainty.” And this is what having a “scientific worldview” means.

Emergence

“Science is interested in the *closest approximation to the truth* it can find and if there is anything science recognizes explicitly, it is that virtually everything we know will be revised over time as new information arises.”

Symbiosis

Everything has an interdependent relationship with everything. “The best concept to embody this notion is that of a ‘system’. The term ‘tree’ is really a reference to a *perceived system*. The ‘root’, ‘trunk’, ‘branches’, ‘leaves’ and other such attributes of that tree could be called ‘sub-systems’. Yet, the ‘tree’ itself is *also* a sub-system, it could be said, of, perhaps, a ‘forest’, which itself is a sub-system of other larger, encompassing phenomena such as an ‘ecosystem’. ... We simply cannot find a truly closed system anywhere. Even the ‘Earth system’ ... is entirely reliant on the sun, the moon and likely many, many other symbiotic/synergistic factors we have yet to even understand for its defining characteristics. ... Understanding symbiosis at a societal level is at the foundation of the most viable perspective for true human sustainability” since human species also has a symbiosis relationship with the environment. All pollution and deprivation caused by humans is a result of lack of awareness of this symbiotic relationship.

Sustainable Beliefs

“While the notion of ‘sustainability’ might be typically associated with technical processes, eco-theory and engineering today, we often forget that our *values and beliefs* precede all such technical applications. Therefore, we need our cultural orientation to be sustainable to begin with and that awareness can only come from a valid recognition of the laws of nature to which we are bound.” The integrity of a belief system can be measured by “how well its principles align with scientific causality”. Specifically the two belief systems, “Market Economy” and “Natural Law/Resource-Based Economy” are the ones subject to judgment by the readers of The Zeitgeist Movement Defined. Need to keep in mind that a belief system is unsustainable if:

- It does not allow for it to be altered or made obsolete due to new information (on the basis of emergence)
- If supports isolation and division, supporting one group over another (on the basis of symbiosis)

-SOURCING SOLUTIONS-

Potential & Resolution

Potential to improve conditions is manifested all the time. For example air transportation had a potential to improve transportation and it was manifested. Problems, on the other hand are also being solved. For example diseases are being cured. But the two concepts of potential and resolution have an overlap. For example if a new, more efficient method of transportation comes around the previous “solution”, the air transportation, can be perceived as a problem. “Every single practice we consider normal today has *built into it* an inevitable inefficiency which, upon new developments in science and technology, will likely produce a ‘problem’ at some point in the future when compared to newer, emerging potentials.”

Root Purpose & Root Cause

“When it comes to thinking about any act of invention or problem solving, we must get as close to the *root purpose (manifest)* or the *root cause (problem)* as possible, respectively, to make the most accurate assessment for action... Rather than pursuing such a focus, most social decisions are based around *traditional customs* that have inherent limits. ...A simple example of this is the current method of human incarceration for so called ‘criminal behavior’ [, imprisonment.] ...It is now common knowledge in the social sciences that most acts of ‘crime’ would likely not occur if certain basic, supportive environmental conditions were set for the human being... Putting people in prisons is not actually resolving” the root cause of problems.

-LOGIC vs. PSYCHOLOGY-

“...the battle between *logic* and *psychology* is really a central conflict in the arena of societal change. There is no context more personal and sensitive than the way we organize our lives in society and an important objective of TZM, in many ways, is to find techniques that can educate the public as to the merit of this logical *train of thought*, overcoming the baggage of outdated psychological comforts which serve no progressive, viable value role in the modern world.”

Mind Lock

“Since all proof depends upon the acceptance of certain propositions as true, no proposition can be proved to be true to one who is sufficiently determined not to believe it.”³ Mind lock is “the condition where one's perspective becomes self-referring, in a

³ *Logic and The Scientific Method*, Cohen and Nagel, Harcourt, 1934, p.19

closed loop of reasoning”⁴. “Seemingly empirical presuppositions frame and secure one’s worldview and anything contradictory coming from the outside can be blocked or rejected, often even subconsciously... This phenomenon, coupled with an educational system that constantly reinforces such established notions through its institutions of ‘academia’, further seals this cultural inhibition and compounds the hindrance to relevant change.”

-THE CASE FOR HUMAN UNITY-

“A critical conclusion present in the logic that defines TZM’s intention is that human society needs to unify its economic operations and work to *align with the natural dynamics of the physical world as a single species sharing one habitat* if we intend to resolve existing problems, increase safety, increase efficiency and further prosperity. ...the detriments and inefficiencies of the current model, when compared to the benefits and solutions possible, are simply *unacceptable*. The efficiency and abundance possibilities, extrapolated within TZM’s intention to install a new socioeconomic system, rest, in part, on a concerted effort by the human population to *work together and share resources intelligently*, not restrict and fight as we do today.”

False Divisions

We understand that Earth is a symbiotic/Synergistic system with resources existing in all areas. We also understand the underlying causal scientific order that exists on earth. This understanding guides us towards going beyond all divisions such as countries, corporations or political traditions. “If an ‘economy’ is about *increasing efficiency in meeting the needs of the human population while working to further sustainability and prosperity*, then our economic operations must take this into account and align with the largest relevant ‘system’ that we can understand... from this perspective, the nation-state entities are clearly false, arbitrary divisions perpetuated by cultural tradition, not logical, technical efficiency.”

Values

“The broad organization of society today is based on multi-level human competition. Nation-states compete against each other for economic/physical resources; corporate market entities compete for profit/market-share; and average workers compete for wage providing occupations/income and hence personal survival itself. Within this competitive ethic is a basic psychological propensity to disregard the wellbeing of others and the habitat. The very nature of competition is about having *advantage* over others for personal gain and hence... division and exploitation are common attributes of the current social order. Interestingly, virtually all so-called ‘corruption’ which we may define as ‘crime’ in the world today is based upon the very same mentality assumed to guide ‘progress’ in the world through the competitive interest... The fact is there is technically only one race - the human race; ...one basic habitat - Earth; and ...only one working manner of operational thought – scientific.”

Origins and Influence

Looking at history of mankind, we see conflict, scarcity and imbalance. “The Earth ...has been a battlefield where countless lives have been taken for the sake of competition, whether material or ideological.” In fact, we have experienced this throughout the history to such extent that many of us attribute conflict and war to human nature, “with the conclusion that the human being is simply unable to operate in a social system that is not based upon this competitive framework.” So we assume it is in our nature to compete and we are bound to it. We need to look at the biological vulnerability of humans when it comes to the need for self-preservation and survival and couple it with understanding of the level of scarcity at the time of conflict to understand the root causes, instead of just associating it purely to human nature.

⁴ Reference: *The Cancer Stage of Capitalism*, John McMurtry, Pluto Press, 1999, Chapter 1

True “Self-Interest”

“The notion of ‘self-interest’ is clearly inherent to the human being's common urge to survive. This is obvious enough and it is easy to see historically how the raw necessity of personal survival, often extending to family and then the ‘tribe’ (community), set the stage for the divisive, protectionist paradigm we exist in today... The father of the ‘free market’, [Adam Smith] made popular the assumption that if everyone had the ethic to look out for themselves only, the world would progress as a community.” This might have worked many years ago but “the nature of society has changed greatly over time, with population increases, entirely different role structures and exponentially advancing technology. The risks associated with this manner of thought are now proving to be more dangerous than beneficial, and the *true* definition of ‘self-interest’ is taking a *larger context* than ever before. Is it not in your self-interest to protect and nourish the habitat that supports you? Is it not in your self-interest to take care of society as a *whole*... so that the consequences of deprivation, such as “crime” are reduced... to ensure your safety? Is it not self-interest to consider the consequences of imperialist wars that can breed ...hatred on one side of the planet, only to have ...desperate ‘blow-back’ acts of retribution [on the other side]?”

The bottom line is that things have changed in the world today and *your self-interest is now only as good as your societal interest*. Being competitive and going out for yourself, ‘beating’ others only has a negative consequence in the long-term, for it is denying awareness of the synergistic system we are bound within.”

Warfare

“The days of practical warfare are long over. New technology on the horizon has the ability to create weapons that will make the atom bomb look like a roman catapult in destructive power... In many ways, our very *social maturity* is being questioned at this time...in a world of nano-tech weapons that could be constructed in a small lab with enormous destructive power, our *expanded self-interest* needs to take hold and the institution of war needs to be systematically shutdown. In order to do this, nations must technically unify and share their resources and ideas, not hoard them for competitive self-betterment, which is the norm today. Institutions like the United Nations have become complete failures in this regard because they naturally become tools of empire building due to the underlying nature of country divisions and the socioeconomic dominance of the property/monetary/competition-based system orientation... The Earth is a single system, along with the laws of nature that govern it. Either human society recognizes and begins to act and organize on this inherent logic, or we suffer in the long run.”

-THE FINAL ARGUMENT: HUMAN NATURE-

“...When presenting TZM's solution-oriented *train of thought* to those unfamiliar, it is usually just a matter of time before, at a minimum, the basic scientific premise is understood and accepted in abstraction.” People quickly understand and accept that we have the resources and the technical reality to solve the problem of hunger, for example, and they commonly agree that we should. However, as soon as the “large-scale social and economic reformations needed to facilitate true system support” to solve hunger is explained, people start to object. And the argument is usually around “human nature”. ““Is the human species able to adapt and thrive in a technically organized system, where our values and practices align with the known laws of nature in practice, or are we confined by our genes, biology and evolutionary psychology to operate in only the way we know today?” While many today argue the specifics of the *nature vs. nurture* debate - from ‘blank slate’ behaviorism to genetic determinism - it has become clear, at a minimum, that our biology, our psychology and our sociological condition are... linked to the environment we inhabit, both from the standpoint of biological evolution and cultural evolution. ...It has been found that environmental conditions, including factors such as nutritional input, emotional security, social association, and all forms of

stress in general can influence the human being in many more ways than previously thought... For example, while there is evidence that depression as a psychological disorder can have a genetic predisposition, it is the *environment* that really triggers it or not.”⁵

Changing the Condition

“The idea of changing society's influences/pressures to bring out the best of the human condition rather than the worst is at the core of the social imperative of TZM. ...Enormous evidence exists to support how the influence of our environment is what essentially creates our *values and biases* and while genetic and physiological influences can set propensities and accentuations for certain behaviors, the most active influence regarding our *variability* is the life experience and condition of the human being, hence the manner of interaction between the ‘internal’ (physiological) and ‘external’ (environmental). ...The broad and viable awareness with respect to basic public health improvement via reducing stress, increasing quality nutrition and stabilizing society by working toward abundance and ease rather than strife and complexity – is not susceptible to much debate. ...To think humans are simply incompatible with these resolutions, even if it means changing our world greatly, defies the long history of adaptation we have proven to be capable of.”

PART II: SOCIAL PATHOLOGY-DEFINING PUBLIC HEALTH-

Overview

“What is the true measure of *success* for a society? What is it that makes us happy, healthy, stable and in balance with the world around us? Is not our success *really* our ability to understand and adapt to the realities of our world for the best outcome possible for any given circumstance? What if we were to find that the very nature of our social system was actually *reducing our quality of life in the long term*?

...In fact, most ‘prosperity’ and ‘integrity’ measures for the human condition are now haphazardly equated to mere economic baselines such as GDP, PPI or employment figures. Sadly, these measures tell us virtually nothing about *true* human wellbeing and prosperity. The term *public health* is a medical classification, essentially defined as: ‘the approach to medicine that is concerned with the health of the community as a whole.’ ...the context here will extend into all aspects of our lives, including not only physiological health but mental health as well... It is the conviction of TZM that the existing social model is a cause of ‘social pathology’, with a perpetuation of imbalance that is unnecessarily generating both physiological and psychological disorders across the population, not to mention systemically limiting human potential and problem resolution in many ways.

The Economic Factor

“If one was to take a quick glance at the major causes of death globally, as put forward by the World Health Organization, [one would notice] clear differences based on the economic state of a region.”⁶ For example it shows that cancer diseases are more common in high income societies while diarrhoeal diseases are more common in low income societies. This “gives insight as to how the broad context of socioeconomic position can affect public health...Mahatma Gandhi once said ‘Poverty is the worst form of violence.’ His context relates to the unnecessary deaths caused by poverty in the sense of the broad limitations such severe financial restrictions have on health. This idea was later encompassed in the term *structural violence*,⁷ defined by Dr. James Gilligan as “...the increased rates of death and disability suffered by those who occupy the bottom rungs of society.” ...

⁵ Reference: *The Structure of Genetic and Environmental Risk Factors for Common Psychiatric and Substance Use Disorders in Men and Women*, Arch Gen Psychiatry. 2003;60

⁶ Source: *The top 10 causes of death*, WHO, 2013 (<http://www.who.int/mediacentre/factsheets/fs310/en/index.html>)

⁷ Reference: *An Empirical Table of Structural Violence*, Gernot Kohler and Norman Alcock, 1976<http://jpr.sagepub.com/content/13/4/343.extract>

However, the causality doesn't stop there. We then need to ask the question: what is causing the poverty?...the true imperative for public health improvement rests almost entirely on this socioeconomic premise of causality... structural violence is the most deadly killer on the planet.”

Physiological Health

“...The causality of [most] ‘physical’ diseases is not strictly ‘physical’ ... as modern study has found deep *psychosocial* relationships to seemingly detached physiological issues. According to the World Health Organization, the most common shared major causes of death in low, middle and high-income countries are heart disease, lower respiratory infections, stroke and cancer.”

Case Study: Heart Disease

“Coronary heart disease is still considered by the WHO as the ‘leading cause of death’ globally⁸ and it has been found that while there are genetic factors in play, 90% of those dying ‘have risk factors influenced by lifestyle’⁹ and overall the disease is widely considered *preventable* if lifestyle adjustments are made. The WHO makes it generally clear that on the global scale, lower socioeconomic status breeds more heart disease and naturally more of the risk factors that lead to it... There is no evidence to show that genetic differences between regional groups could be responsible for these variations and it is obvious to see how a lack of purchasing power leads people into lifestyles that include many such risk factors...”

Psychological Health

“...[Chart#1 in Appendix A](#) is a comparison of overall mental health and drug use by country¹⁰ ...including anxiety disorders, mood disorders, impulsive disorders, addictions and others. One can clearly see that the United States, which also has the highest level of inequality, has an enormous level of mental health and drug disorders as well in comparison to the less stratified countries, with Italy being the lowest in mental health disorders of the group. ...People are greatly influenced by their perceived status in their society and often *when we expect to be viewed as inferior, very often we perform as such*. ...In conclusion ... inequality-based phenomenon ... shows a clear relationship to psychological wellbeing, it is important to quickly make clear the vast *range of issues* found related. When it comes to education, social capital (trust), obesity, life expectancy, teen birth, imprisonment and punishment, social mobility, opportunity, and even innovation – countries with less income inequality do better than those with more income inequality. Put another way, they are *more healthy* societies.”

Case Study: Behavioral Violence

“...Dr. Gilligan makes it very clear that extreme forms of violence are not random or genetically induced, but rather complex reactions that originate from stressful experiences, both in the long and short term...In Dr. Gilligan's diagnosis he makes it very clear that the greatest cause of violent behavior is *social inequality*, highlighting the influence of *shame* and *humiliation* as an emotional characteristic of those who engage in violence.¹¹ [\[Chart #2 in Appendix A\]](#) shows rates of homicide across wealthy nations with varying states of social inequality. The United States, which is likely the largest “anti-socialist” advocate with little structural safeguards in place (such as a lack of universal health care), shows a massive level of violence.”

⁸ *The Atlas of Heart Disease and Stroke*, WHO & CDC, Part 3, *Global Burden of Coronary Heart Disease*.

⁹ Ibid

¹⁰ Chart from *The Spirit Level* by Richard Wilkinson and Kate Pickett, Penguin, March 2009, p.67

¹¹ Reference: *Violence*, James Gilligan, Grosset/Putnam, New York, 1992, p.210-213

-HISTORY OF ECONOMY-

“...Slavery, classism, xenophobia, racism, sexism, subjugation and many other divisive & exploitative notions still common to human cultural history will be found to have kernels of origin or perpetuation in many generally accepted economic philosophies to one degree or another. History is fairly clear with respect to how the social condition is groomed by the prevailing economic assumptions of a given period and this broad sociological consideration is sadly not given much gravity in the world today when thinking about why the world is the way it is and why we think the way we do...Most economic debates today revolved around this duality [between]... those who wish to have a completely non-regulated market economy, [free market,] and those who think some kind of centralized government control and decision making over economic planning and policy[, State,] is best. The Zeitgeist Movement takes neither side... ‘Modern’ economic thought and practice is an old engine with generations of imminent ‘experts’ working to administer old components parts, refusing to accept the possibility that the entire engine is outdated and perhaps increasingly detrimental.” Three common features can be seen dominant in Western socioeconomic philosophies:

- 1) A *class divide* has been recognized and employed...those that *produce* and those who *gain* from that production.
- 2) A basic disregard of critical relationships between the human species and its governing, supportive habitat.
- 3) General dismissal of social recognition of people’s wellbeing on the level of *human need* and hence *public health*.

Although knowing the history of economy is essential to understanding the train of thought advocated by TZM, for the purpose of keeping this roaming short, I will be extremely brief in this section. I encourage anyone interested to know more about this history from the TZM point of view, to refer to the original text.¹²

Dawn of Market Capitalism

“Medieval Feudalism (roughly from the 9th to 16th centuries) was the dominant socioeconomic system that essentially preceded ‘free market capitalism’ in Western Europe, with what was later [called] ‘mercantilism’... Feudalism was based on a system of mutual obligations and services going up and down a set social hierarchy, with the entire social system resting essentially on an agricultural foundation. Medieval society was mostly an agrarian society and the social hierarchy was based essentially on peoples’ ties to land. By the 16th century, the ‘handicraft’ industry common to feudalism had been transformed into a crude mirror of what we know today, with the outsourcing of labor, singular ownership of production, along with many finding themselves more and more in the position of being ‘employed’ rather than producing themselves. Eventually, the logic surrounding monetary *profit* began to be the core, deciding factor of overall action in a systemic way and the true seeds of capitalism took root. Mercantilism, which essentially dominated Western European economic policy from the 16th to the late 18th centuries,¹³ was characterized by state-driven trade monopolies coupled with many other extensive regulations for production, wages and commerce emerging over time, further increasing the power of the state. Collusion between the state and these emerging industries were common and many wars occurred... Adam Smith wrote an extensive criticism of mercantilism in ... 1776¹⁴” This is considered “the ideological birth of ‘free market’ capitalism ..., with the rejection of what is often called ‘state’ capitalism in modern terms, where the state ‘interferes’ with the ‘freedom’ of the market - a defining feature of mercantilism. Today, ‘capitalism’, as a singular term, is generally defined culturally in the theoretical context of ‘free market’ not ‘state’ capitalism.”

¹² The Zeitgeist Movement Defined, 2014 (http://www.thezeitgeistmovement.com/uploads/upload/file/19/The_Zeitgeist_Movement_Defined_6_by_9.pdf)

¹³ Reference: *The Concise Encyclopedia of Economics*, David R. Henderson, Liberty Fund, Inc, 2002, “Mercantilism

¹⁴ Reference: *An Inquiry into the Nature and Causes of the Wealth of Nations*, Adam Smith, 1776, Book IV: Of Systems of Political Economy

Capitalism Defined

“Capitalism as we know it... emerged... slowly over a period of several centuries... There is no complete agreement amongst economic historians/theorists as to what the essential features of capitalism really are. We will... reduce it to four basic features.

- 1) **Market-based production/distribution:** Commodity production is based around rather complex interrelationships and dependencies that do not involve *direct* personal interactions between producers and consumers. Supply and demand is mediated by the ‘market’ system.
- 2) **Private ownership of production means:** This means that society grants to private persons the right to dictate how the raw materials, tools, machinery, and buildings necessary for production can be used.
- 3) **Decoupling of ownership and labor:** A constant class divide is inherent where on the top level, ‘capitalists’,... own the means of production, but yet have no obligation to contribute to production itself. The capitalist owns everything produced by the laborers, who only own their own labor, by legal authority.
- 4) **Self-maximizing incentive assumed:** Individualistic, competitive and acquisitive interests are necessary for the successful functioning of capitalism...

Adam Smith (1723-1790) is often credited as one of the most influential economic philosophers in modern history. His work... is often considered a starting point for economic thought in the context of modern capitalism. Smith's most noted contribution to the philosophy of capitalism was his general advocacy that even though individuals might act in a narrow, selfish manner on their personal behalf or on the behalf of the class or group to which they are a part, and even though conflict, both individual or class based, seemed to be the result of these actions, there was what he called an ‘invisible hand’ that secured a positive social outcome from singular, selfish, non-social intents. This concept was presented both in his works *The Theory of Moral Sentiments*¹⁵ and *The Wealth of Nations*. He stated ‘Civil government, so far as it is instituted for the security of property, is in reality instituted for the defense of the rich against the poor, or of those who have some property against those who have none at all.’... ‘Every man, as long as he does not violate the laws of justice, is left perfectly free to pursue his own interest his own way, and to bring both his industry and capital into competition with those of any other man, or order of men.’”

Malthus and Ricardo

“Thomas Malthus (1766-1834) and David Ricardo (1772-1823) were two well acknowledged, leading theorists of political economy of the early 19th century. The late Industrial Revolution in Europe and America was a period of extensive conflict between laborers and capitalist owners... This gave rapid rise to the now common labor unions and a general battle between “workers and owners” has continued ever since.... It was in the midst of all this that Malthus and Ricardo invariably contextualized their economic and social views... Beginning with Malthus, He considered [class structure of wealthy proprietors and poor laborers] a *law of nature* ... [and also] that poverty and suffering and hence economic divides were inevitable consequences of natural law. His thesis on population rests upon the ... assumption that ‘Population, when unchecked, increases in a geometrical ratio. Subsistence increases only in an arithmetical ratio.’ Therefore, if the standard of living of everyone in society were increased, the vast majority would respond by increasing the amount of children they have. In turn, population outpacing subsistence would very soon push the population back to poverty. It was only through ‘moral restraint’, a social quality that he implies to belong to the more upstanding upper class, that this problem is checked by behavior... just as there is enormous debate today with respect to laws pertaining to the notion and use of ‘welfare’ or ‘public aid’ programs to help the poor, Malthus, naturally, was a big proponent of the abolition of what were then called the ‘poor laws’, as was David Ricardo. ...Ricardo viewed society and the class divisions of his time from the labor perspective and it logically went that the interests of

¹⁵ Source:[*The Theory of Moral Sentiments* par. IV.I.10, 1790

workers and capitalists were opposed. ‘If wages should rise,’ he often stated, ‘then... profits would necessarily fall.’... He alludes to the conviction that the theory of capitalism, if correctly applied, should *always* create full employment in the long run.”

Theories of Value and Behavior

The “labor theory of value” ... is a generalized proposal stating that the value of a commodity is related to the labor needed to produce or obtain that commodity... The utility theory takes what we could call the ‘market perspective’, meaning that value is derived not from labor but by the purpose (or utility) derived by its use (use value) by the consumer, as *perceived* by the consumer. French Economist Jean-Baptiste Say (1737-1832) is notable with respect to utility theory. Utilitarianism... is often modeled in complex mathematical formulas in an effort to explain how humans in the market ‘maximize their utility’, specifically around the idea of increasing happiness and reducing suffering.

Economist Nassau Senior (1790–1864) supported a common theme reoccurring today that human wants were *infinite*¹⁶... Such declarations of human nature are constant in such treatments, with notions of greed, fear and other hedonistic reflex mechanisms which assume, among other things, that *material acquisition, wealth and gain* are inherent to happiness... Ever expansive utilitarian arguments of this nature continue to be used to morally justify competitive, market capitalism. ... Overall, the *utilitarian* (hedonistic, and competitive and ‘forever dissatisfied’) model of human nature is likely the most common defense of the capitalist system today.”

The “Socialist” Uprising

“Socialism... is often technically defined as ‘an economic system characterized by social ownership of the means of production and co-operative management of the economy.’¹⁷ The root of socialist thought appears to go back to 18th century Europe, with a complex history of ‘reformers’ working to challenge the emerging capitalist system... By the early 19th century, socialist ideas were expanding rapidly, commonly in response to perceived moral and ethical problems inherent to capitalism, such as class imbalance and exploitation...”

William Thompson (1775-1833), Karl Marx (1818-1883) and Thorstein Veblen (1857-1929) are the three powerful influences on socialist thought. For more in depth exploration of their ideas, reader can refer to the original text, *The Zeitgeist Movement Defined*.

In Conclusion: Capitalism as “Social Pathology”

“...The central point being that the attributes taken as ‘given’ to the dominant theories of economy today are actually not based on direct *physical support*, such as would be needed to find validation via the *method of science*, but rather based on the mere perpetuation of an established *ideological* framework which has evolved to intricately *self-refer* to its internal logic, justifying its own existence by its own standards. Today, it is not what embodies the capitalist ideology in specifics that is most problematic, but rather what it *omits* by extension. Just as early religions saw the world as flat and had to adjust their rhetoric once it was proven round by science, the tradition of market economics is faced with similar trials.”

¹⁶ *An Outline of the Science of Political Economy*, Nassau Senior, 1836, London, Allen and U., 1938, p.27

¹⁷ Source: Britannica.com (<http://www.britannica.com/EBchecked/topic/551569/socialism>)

-MARKET EFFICIENCY VS TECHNICAL EFFICIENCY-

Overview

“Scientific development, while evolving in parallel with traditional economic development over the past 400 years or so, has still been largely ignored and seen as an ‘externality’ to economic theory. The result has been a ‘decoupling’ of the socioeconomic structure from the *life support* structure to which we are all tied, and upon which we all depend... The most common argument in support of market capitalism is that it is a system of ‘freedom’ or ‘liberty’... What we find is that on the level of our habitat relationship we are simply *not free* and to have an overarching value orientation of supposed freedom, which is then applied toward how we should operate our global economy, has become increasingly dangerous to human sustainability on the planet earth... It will be argued here that the integrity of any economic model is actually best measured by how well *aligned* it is with the known, governing *laws of nature*... There is no debate with respect to the fundamental ecological processes that secure the environmental stability of our habitat ... There is also no debate ...that the human psyche has, on average, basic predictable reactions when it comes to environmental *stressors* and hence how reactions of violence, depression, abuse and other detrimental behavioral issues can manifest as a result. ... Put together, a ‘ground up’, rational model of economic operation can be generalized with very little need, in fact, for the centuries of traditionalized economic theory... the two systems are not only decoupled, they are *diametrically opposed* in many ways, alluding to the reality that the competitive market economy is actually not ‘fixable’ as a whole, and hence a new system based *directly* on these ‘natural law’ realities needs to be constructed from the ground up.”

Cyclical Consumption & Economic Growth

“Market capitalism in basic operation can be generalized as an interaction between *owners*, *laborers* and *consumers*. Consumer demand generates the need to produce via the owners (capitalists), who then employ laborers to perform the act of production. This cycle essentially originates with ‘demand’ and hence the real engine of the market is the *interest*, *ability* and *act* of everyone buying in the market place. All recessions/depressions are a result, on one level or another, of a loss of sales. Therefore the most critical necessity for keeping people employed and hence keeping the economy in a state of ‘stability’ or ‘growth’ is constant, *cyclical consumption*. ... The *business cycle*, a period of oscillating expansion and contraction, has long been recognized as a characteristic of the market economy due to the nature of ‘market discipline’... mutual respect toward both the expansion and contraction periods of the business cycle has *not* existed historically... all contractions are seen as policy failures...therefore... political establishments ...[try] to *preserve* periods of expansion for as long as possible and fight all forms of contraction... The result has been, in short, a constant *increase* in the money supply (i.e. purchasing power and capital) during times of recession, with the end result being massive *global debt*, both public and private... All money comes into existence through loans ...with *interest attached*, where the loan must be paid back with the interest fee accrued (bank's profit); meaning that ...there is always more debt in existence than there is money in circulation. ... In short, when it comes to *market logic*, the more turnover or sales, the better - and that is that - regardless if the item sold is credit, rocks, ‘hope’ or flapjacks. Any pollution, instances of waste or other such detriments are, again, ‘external’. There is no consideration for the technical role of actual production processes, strategies for efficient distribution, design applications or the like. Such factors are assumed to culminate *metaphysically* in the best interest of the people and the habitat simply because that is what the ‘invisible hand’ of the market implies.

Unnecessary Obsolescence: Competitive and Planned

“Moore's Law... which essentially denotes how processing power doubles every 18-24 months, has been extended to apply to other, similar technological applications, illuminating the powerful trend of scientific advancement in general. However, [in] goods production, two forms of obsolescence occur today. These are *not* based on the natural evolution of technological capacity, but result from (a) the ... *competitive rule structure* of the market system, along with (b) ...market ‘efficiency’ in seeking ...profit.”

Obsolescence

- 1) “Competitive (or intrinsic) “: Every entity works to have competitive advantage over others by keeping the price as low as possible. To make this happen they use cheaper materials and designs. “It is mathematically impossible for any competing company to produce the *strategically best* good, technically, in a market economy, as the “cost efficiency” mechanism *guarantees* a less-than-optimal production.”
- 2) “Planned”: Is to ensure cyclical consumption. “...corporations decided it was ...best to ... deliberately [inhibit] efficiency for the sake of repeat purchases... the nature of *market efficiency* disallows such *technical efficiency* by default.”

Property vs. Access

“From the standpoint of *market efficiency*... the more direct purchases of goods, the better... If 100 people wish to drive a car, having 100 people purchase those cars is more ‘efficient’ for the market than if 100 people shared 20 cars in a system of strategically designed access...” Ownership of products that are used only intermittently creates inconvenience due the fact that they should be stored during the time they are not used. “Also [it is] clearly *inefficient* in the context of true economic integrity” since it is truly wasteful. Many of these products could be shared instead of purchased in the same way books are shared in libraries all around the world today. The problem is that such a strategic access system would not be efficient in terms of market since a lot less goods would be purchased. “So, from the standpoint of *technical efficiency*, at the deep expense of *market efficiency*, a *shared access* rather than *universal property* oriented society would be exceptionally more sustainable and beneficial. Of course, such a practice would naturally challenge some deep value identifications common to the ‘propertied’ culture today.”

Competition vs. Collaboration

“Today, economists mostly discuss competition as an incentive necessary to continue *innovation*, along with the generally implied assumption that there simply isn’t enough to go around on this planet and hence everyone has no choice but to fight on some level, with inevitable losers. The themed context ...of *market vs. technical efficiency* shall be explored with respect to the competitive benefits and/or consequences. There are two core angles to consider:”

- (a) “How competition affects industrial production:”

“Business, in its pursuit of *profit* and *cost efficiency*, seeks out inexpensive labor, equipment and facilities at all times to remain competitive in the market... from the standpoint of *market efficiency*, the cost-to-profit ratio is all that matters, even if the actual act of this global processing is using [disproportionate waste].” “Proximal efficiency” completely is ignored which “is the source of some very wasteful realities... In the name of competition, localization is completely ignored in many cases of industrial production. Also, “the very fact of multiple corporations, working in the same genre of good production, producing nearly *identical* products with only mild variation, only adds to the sources of unnecessary waste.”

- (b) “How it actually effects innovation or creative development:”

“While the assumption still persists today that differential reward for one's contribution motivates other people to seek that reward, ... modern sociological study finds a number of conflicting views... the competitive system seeks *secrecy* when it comes to business ideas, [which is] often universally against the open flow of knowledge. The use of *patents* and *proprietary rights* or ‘trade secrets’ perpetuates not an advance of innovation ...but retardation... It becomes obvious that the notion of *intellectual property*, has manifest out of the vast period of human history where one's creativity has become tied to one's personal survival. ... It is also easy to see how the phenomenon of “ego” has manifest around the idea of intellectual ownership, since the basis of reward in such a system invariably has a psychological tie to one's personal sense of self-worth... Yet, if we were to think about it in general, the sharing of knowledge has no negative recourse outside of the economic premise of ownership for profit exploitation. There is nothing to lose and, indeed, an enormous amount to be gained *socially* by the sharing of information.”

Labor for Income

“At the core of the market system is the selling of an individual's labor as a commodity. In many ways, the ability of the market to employ the population has become a measure of its integrity. However, the advent of “mechanization” ... has become an ever-increasing point of *interference* over time.”

It is assumed that mechanization or technological innovations expand the industry and create new jobs employing people who lost their job to the machines. Although this has been historically true to some degree, nowadays, with the exponentially increasing rate of technological advancements, coupled with cost-efficiency that these advancements bring to business, “the *rate of change* of technological development [and therefore, job loss,] far exceeds the rate of new job creation”. “Robotics in the modern day [has] far exceeded the physical capacity of the average human being, along with rapidly advancing calculation processes which continue to vastly exceed human thought. The result is the ability of industry to employ machines ...[that] do not need health insurance, unemployment insurance, vacations, union protection, etc. Therefore, it is only natural for businesses to seek out mechanization at all times, [to gain] *market efficiency*...” In one hand, mechanization brings cost-efficiency and on the other hand through technological unemployment it works against market efficiency because those who lost their jobs won't have the capital to keep cyclical consumption in motion. So when it comes to market efficiency, mechanization poses both positive and negative outcomes but when it comes to technical efficiency mechanization has tremendous positive effects. “It is easy to see that without the interference of market logic on this new technical capacity, which invariably inhibits its full potential, what could be relatively deemed an “abundance” of most life sustaining goods could be facilitated for the global population.”

Scarcity vs. Abundance

Generally if a resource or good is rare the price of it is higher and if it is abundant the price of it is relatively low. “From the standpoint of *market efficiency*, general scarcity is a good thing overall, while extreme scarcity is, indeed, destabilizing both for an industry or an economy as a whole (‘shortages’)... Meeting human needs would... be inefficient to the market's logic as it would remove the scarcity pressure that fuels cyclical consumption [as well as fueling existence of circumstances which keeps people in jobs with substandard conditions, as there are no other options for survival]. ... [In fact,] keeping people deprived is actually a positive precondition for the workings of the market.”

Conclusion

Technical efficiency which can create abundance hinders market efficiency. “It is unfortunate to realize that today we have two *opposed* systems of economy working at once”, against each other. Market system as appose to Natural (technical) economy.

“The *technical reality* is simple: learn, adapt and align to the governing laws of nature, or suffer the consequences.”

“As a final point, as well as a general aside, there has emerged a trend in the 21st century in the wake of all the growing and persisting including applications for renewable energy, eco-buildings, clean transportation and other categories of focus. It will be noticed that all of those... are generally in line with the *technical* or scientific ... perspective [but] sadly, as positive as the intent of these new organizations and business planners may be, the inefficiency *inherent* to the capitalist model of economics ...immediately pollutes and deeply limits all such attempts... The only logical solution is to rethink the entire structure.”

-VALUE SYSTEM DISORDER-

Thought Genes

Meme is “an idea, behavior, style, or usage that spreads from person to person within a culture. ...Memes are considered to be sociological or cultural analogues to genes. ...It is fundamentally clear that people's ideas are limited by their input (education). If a person is given little knowledge about the world, their decision process will be equally as limited. ... Just as genes can *mutate* in ways that are detrimental to their host, such as the phenomenon of cancer, so can memes with respect to ideological/sociological transmissions, generating mental frameworks that serve as detriments to the host. ... A disorder is defined as ‘a derangement or abnormality of function...’¹⁸ when ideas persist for a long enough period, they often create *emotional connections* on the personal (‘identity’) level and *institutional establishments* on the cultural level, which tend to perpetuate a kind of *circular reinforcement*, generally resisting [change and adaptation... This disorder is, inherent to the market capitalist tradition... also the value system – the employment of ‘identity’ and a normalized sense of custom... bears \[another\] powerfully problematic force \[against human cultural adaptation\]](#).

Value System Disorder

“...sociological traditions which persist with ever-increasing problem generation for society could be called a *value system disorder*.” When certain assumptions are given credibility only on the basis of their persistence, repetition and “reinforcement of itself in operation”, recognizing its flaws and adapting new ideas that go against those assumptions becomes extremely difficult. “On the scale of a social system, it becomes very difficult as the society as a whole is constantly being conditioned into the dynamics of its own framework, often creating powerful *self-preservation* reactions whenever its integrity is challenged. These, what could be called ‘closed intellectual feedback mechanisms’, are what comprise the vast majority of arguments in defense of our current socioeconomic system... Such reactions are also common with respect to established practices in specific fields. For instance, Ignaz P. Semmelweis (1818 -1865), a Hungarian physician who discovered that puerperal fever could be drastically cut by the use of simple hand washing standards in obstetrical clinics... was shunned, rejected and ridiculed by his finding. It wasn't until long after his death his now very basic realization was respected. Today, some use the phrase, ‘The Semmelweis Reflex’ as a metaphor for the reflex-like tendency to reject new evidence or new knowledge because it contradicts established norms, beliefs or paradigms... ‘Institutional establishments’ are simply social traditions given the illusion of permanence and the longer they persist, often the stronger the defense of their right to exist by the majority of culture. ... If we examine the institutional establishments we take for granted today –such as the financial system..., the legal system, the political system and major

¹⁸ Source: (‘disorder defined’) TheFreeDictionary.com (<http://medical-dictionary.thefreedictionary.com/disorder>)

religious systems – [as well as systems] such as materialism, marriage, celebrity, etc. – we must remind ourselves that none of these ideas are actually *real* in the physical sense.

Characteristics of Pathology

“In order to critically evaluate an existing framework of thought, a basic, mutually accepted benchmark needs to be generated... The scientific method of arriving at conclusions is the ultimate benchmark upon which the integrity of human values can be measured and this modern reality demystifies the common ‘relativism’ defense of subjective human belief. It is not about ‘right’ and ‘wrong’ but what *works* or *doesn't work*. The integrity of our values and beliefs is only as good as how aligned they are with the natural world. This is the *common ground* that we all share. ... The dominant value system, which the capitalist socioeconomic model perpetuates [consists of] fundamental ethos... that of an anti-social, scarcity driven pressure, which forces all players of the game to be generally exploitative and antagonistic both of others and the habitat... The result is a vicious cycle of general abuse, narrow-minded selfishness, and social and environmental disregard. ... Historically, these caustic characteristics are usually defended as simply ‘the way it is’... Yet, the more we live as human beings the more clear it becomes that our human capacity is being *inhibited* directly by an archaic reward and survival structure which continues to reinforce primitive, desperate values.”

Self-Preservation Paralysis

“While each of us generally wishes to survive and do so in a healthy state, naturally prepared to defend that survival when need be, *self-preservation* in the current socioeconomic condition unnecessarily extends this tendency in ways that severely inhibit social progress and problem resolution. ... This short-term preservation occurs often at the cost of *long-term integrity*... The fear inherent to the loss of livelihood naturally overrides almost everything and even the most ‘ethical’ or ‘moral’ person, when faced with the risk of non-survival, can usually justify actions that would be traditionally called ‘corrupt’.”

Competition, Exploitation and Class Warfare

“We see this ‘taking advantage’ rhetoric in many facets of our lives. The act of manipulation and exploitation for competitive gain has become an underlying force in modern culture, extending far beyond the context of the market system, ...[into] romantic relationships, friendships, family structures, nationalism and even how we relate to the habitat we exist within. A study performed at the Department of Psychology at the University of California, Berkeley, in 2011 found that: ...upper-class individuals behave more unethically than lower-class individuals...were more likely to break the law while driving...were more likely to exhibit unethical decision-making tendencies, take valued goods from others, lie in a negotiation, cheat to increase their chances of winning a prize, and endorse unethical behavior at work than were lower-class individuals. ...Studies of this nature ...reveal that the common human nature argument... that of people inevitably ‘[are] competitive and exploitative’, ... is bypassed... external negative consequences, or so-called ‘unethical behavior’ expressed by the upper class, is a result of the type of *values* needed to achieve the position of actually making it to the ‘upper class’.”

Success & Status

“...the very notion of ‘success’ in the culture today is measured by material wealth, in and of itself. ... The idea of being rich, powerful and famous, by whatever means necessary, is a guiding force... The value system disorder of rewarding, in effect, generally the most ruthless and selfish in our society, both by financial means and then by public adoration and respect, is one of the most pervasive and insidious consequences of the incentive system inherent to the Capitalist model... The status-interest ... generates actions of self-preservation on the part of the upper class that seek to maintain (or elevate) their status in ways that might not even relate to money or material wealth anymore. Self-preservation, in this case, extends to a kind of *drug addiction*.

... The term 'greed' is often used to differentiate between those who exploit modestly and those who exploit excessively. The term 'relative deprivation'¹⁹ refers to the discontent people feel when they compare their positions to others and realize that they have less of what they *believe* themselves to be entitled to. This psychological phenomenon knows no end and... its presence as a severe value system disorder is apparent on the level of mental health. ...Of course, the myth is that this neurosis of seeking 'more and more' status and wealth is the core driver of social progress and innovation. It is like saying being chased by a pack of hungry wolves ready to eat you is good for your health since it is keeping you running.

Ideological Polarization & Blame

"When the subject of what has 'gone wrong' with the world today is broached - given the poverty, ecological imbalance, inhumanity, general economic destabilization and the like - a polarized debate often ensues. Dualities such as 'the right or the left' or 'liberal or conservative' are common. ... Paired with this is also the older, yet still common duality of 'collectivism vs. free market'... Due to the dark history of totalitarianism that plagued the 20th century, a fear based value orientation, which rejects anything that even remotely hints at the appearance of 'collectivism', is extremely common today, with the related word 'socialism' often used in a derogatory way. ...What isn't talked about is the duality-shattering reality that the state, in its historical form, *is an extension of* the capitalist system itself. The government did not create this system. The system created the government or more accurately - they evolved as one apparatus. ...The entire legal system, which is the central tool of government, will *always* be 'infiltrated' and used to assist in competitive tactics by business to maintain and increase advantage since that is the very nature of the game.

Individuality & Freedom

"...in order to decide what freedom is and how to qualify it, we need to measure it from an (a) historical perspective on one side and with respect to (b) future possibility on the other."

(a) Historically, the fundamental concern is based on the fear of power and the abuse of power. Human history ... is ...one of perpetual power struggles. Fueled by deeply divisive religious and philosophical beliefs and values which manifested abject slavery, the subjugation of women, periodic genocide, prosecution for heresy (free speech, or what was and still is known as 'free thought'), the divine right of kings and the like... The fear and scarcity of these earlier periods appears to have amplified the worst of what we might consider 'human nature', often seeking power as a way to avoid the abuse of power in a vicious cycle. ...Capitalism... is really a *post-modern slavery system*, with a new value orientation of 'competitive freedom' holding it in place. This reinvented notion of 'freedom' basically says that we are all 'free' to compete with each other and take what we can...

(b) Yet, modern science and the exponential development of technical application, along with a deeper awareness of our human condition have opened the door to future possibilities for social improvement and, in fact, a further elevation of freedom in ways never before seen. ... If we wish to think about what freedom means on a basic level, it means being able to direct your life in the way you wish, within reason. Being able to live your life without worrying about your basic survival and health, or that of your family, is the first step. ... Likewise, the labor for income system is one of the most 'unfree' institutions that could exist today ... which is quite literally a top-down, hierarchical dictatorship."

¹⁹ Source: *Relative Deprivation: Specification, Development, and Integration*, Iain Walker, Heather J. Smith, Cambridge University Press, 2001, ISBN 0-521-80132-X, Google Print

The “Marketization” of Life

The trend of the ever-increasing *marketization of life* has created a deep distortion of values in the world. Since ‘freedom’ has been culturally associated with ‘democracy’ and democracy in the economic sense has been associated with the ability to buy and sell, the *commodification* of just about everything one can think of has been occurring. ...Today, whether legal or not, nearly anything can be bought or sold. ...Today ... there are actually *more slaves* in the world than *anytime in human history*. ... From a purely philosophical standpoint, there is no technical difference between any form of market exploitation. ...it is only when that *structural mechanism* is removed from our very approach to societal organization, will the aforementioned issues find resolution.

-STRUCTURAL CLASSISM, THE STATE AND WAR-

“Human conflict has been a consistent characteristic of society since the beginning of recorded history... history has revealed that cases of conflict generally have a rational correlation to *environmental circumstances* and/or *cultural conditions*. This essay will examine two general categories of ‘warfare’: ‘imperial warfare’ and ‘class warfare’. Overall, the central thesis is that the source of these seemingly immutable realities resides within the *socioeconomic premise* itself - in the context of a certain reinforced psychology and hence sociological schemata - not rigid determinations in our genes or lack of some moral aptitude.

Imperial War: Rise of the State

“The Neolithic Revolution some 12,000 years ago marked a pivotal turning point for human society as it transitioned us from almost exclusively ‘living off the land’. ...Dr. Robert Sapolsky: ...Agriculture [generated] an overwhelming reliance on a few dozen food sources...Agriculture allowed for the stockpiling of surplus resources and thus, inevitably, the unequal stockpiling of them, stratification of society and the invention of classes. Thus it has allowed for the invention of poverty.” Richard A. Gabriel said, “The invention and spread of agriculture coupled with the domestication of animals in the fifth millennium B.C. are acknowledged as the developments that set the stage for the emergence of the first large-scale, complex urban societies. These societies... used stone tools, but within 500 years stone tools and weapons gave way to bronze. With bronze manufacture came a revolution in warfare.”²⁰ This is also the period that the concept of the ‘state’ as we know it and the permanence of the ‘armed force’ emerged. ...Gabriel continues: ‘These early societies produced the first examples of state-governing institutions. ...The development of central state institutions ... inevitably gave form and stability to military structures. ... The standing army emerged as a permanent part of the social structure and was endowed with strong claims to social legitimacy. And it has been with us ever since.’”²¹

Imperial War: Illusions

“‘Imperialism’ is defined as: ‘the policy, practice, or advocacy of extending the power and dominion of a nation especially by direct territorial acquisitions or by gaining indirect control over the political or economic life of other areas.’²² ... Thousands of wars in recorded human history have had to do mostly with the acquisition of resources or territory, where one group is either working to expand its power and material wealth, or working to protect itself from others trying to conquer and absorb their power and wealth. ...Even many historical conflicts, which on the surface appear to be for the purposes of pure ideology are

²⁰ Source: *A Short History of War: The Evolution of Warfare and Weapons*, Richard A Gabriel, Strategic Studies Institute, U.S. Army War College, Chapter 1, 1992

²¹ Source: *A Short History of War: The Evolution of Warfare and Weapons*, Richard A Gabriel, Strategic Studies Institute, U.S. Army War College, Chapter 1, 1992

²² Source: Merriam-Webster.com (<http://www.merriam-webster.com/dictionary/imperialism>)

often actually hidden imperial economic moves. ...The armed forces have historically been held in high public esteem by a citizenry and the government continually glorifies this to the extent that the assumption of 'honor' takes on an irrational life of its own. In fact, [this] is compounded psychologically by a built-in *ceremonialism*... This further reinforces the cultural *taboo* where to insult any element of the war apparatus is seen as showing disrespect for the sacrifice of the armed forces. More recently, those in opposition and perhaps engaging in protest actions have been considered 'terrorists' by the state. ...This 'sub-war' can be deconstructed into an even deeper mechanism ... of *social control* in support of imperial intent. In many countries today, either by obligation from birth or by persuasion to legally binding contracts the pressure or motivation to join the military itself is *manipulative* on many levels. ...The United States is on record for having at times spent billions a year (\$4.7 billion in 2009) on global public relations in assist public image and recruitment."

Imperial War: Source

"...war today is actually an inherent characteristic of the propertied, scarcity-driven *business* system. It would be false to say that war is a product of capitalism in and of itself since the practice of war predates capitalism extensively. However, ...war is... a central, immutable feature of capitalism as it is simply a more sophisticated manifestation of these same, divisive, competitive, archaic values and practices. ...Just as a corporation competes with other corporations of the same genre for income survival... all governments on the planet are fundamentally premised on the same form of survival by extension." Governments are simply a bigger version of smaller businesses residing within their countries. The only difference is that governments, in competition with other governments "[are] not restricted by legal mandate as is commonly claimed by the domestic legal restraint - it is forcefully executed in the theater of imperial war... In fact... the very act of this self-preservation through military might have *itself* become a powerfully lucrative business venture which often improves the economic state of the nation and hence profits to its corporate constituents," via "reconstruction of war-torn areas by the conquering states" as well as the "massive military expenditures". ... "World' peace appears simply not a possibility within the currently accepted model of economic practice."

Class War: Inherent Psychology

"Adam Smith ... clearly expresses the nature of power preservation on the behavioral (psychological) level, stating: 'Civil government, so far as it is instituted for the security of property, is in reality instituted for the defense of the rich against the poor, or of those who have some property against those who have none at all.'²³ ...it is illogical to assume that the nature of government is anything else at its core than a vehicle to support the businesses that comprise the wealth of that country. ...one of the architects of the US Constitution of the United States, James Madison, expressed his concern very clearly: 'In England, at this day, if elections were open to all classes of people, the property of landed proprietors would be insecure. An agrarian law would soon take place. If these observations be just, our government ought to secure the permanent interests of the country against innovation. Landholders ought to have a share in the government, to support these invaluable interests, and to balance and check the other. They ought to be so constituted as to *protect the minority of the opulent against the majority*. The senate, therefore, ought to be this body; and to answer these purposes, they ought to have permanency and stability.'²⁴"

Class War: Structural Mechanisms

"...given the financial basis of everything in the world today, with great wealth comes great *power*. Hence... this power enables a more robust strategy for competitive gain and self-preservation and consequently it has hence extended into the very *structure* of the social system itself, assuring that the upper class has great ease in maintaining their vast wealth security, while the lower

²³ Source: *An Inquiry into the Nature and Causes of the Wealth of Nations*, Adam Smith, 1776, par. V.1.2

²⁴ Source: *Notes of the Secret Debates of the Federal Convention of 1787*, Robert Yates, Alston Mygatt, p.183

classes face enormous structural barriers to attaining any basic level of financial security.” Class favoring taxation aside, four other more critical structural factors will be discussed: (a) debt, (b) interest, (c) inflation and (d) income disparity.

(a) **Debt:** ... “Most assume, debt is an *option* in society today. In reality, the entire financial system is built out of debt. ...All money is brought into existence through loans in the modern economy, coming from central and commercial banks [which] essentially create the money out of demand ... Those in the lower classes naturally hold higher levels of this *consumer* debt than the upper class since the very nature of being unable to pay outright....

(b) **Interest** Coupled with debt is the profit attribute associated the sale of money itself. Since the Capitalist market economy supports the general commodification of virtually everything ... money itself is sold ... and this comes in the form of *interest*. Whether it is a central bank creating money in exchange for government securities or a commercial bank making a mortgage loan to an average person, interest fees are almost always attached... this creates the condition where more debt is generated than actual money in circulation [can] cover... since all interest paid is being pulled from the principal, it is a mathematical [fact that]... certain loans simply cannot be repaid. There simply isn't enough money in the system at any one time. ...Bankruptcy is a common result in those segments of society that get this ‘short end of the stick.’ ...The loan contract and legal system support the power of banks, in most cases, to ‘repossess’ the physical property of those who cannot pay. ...This means the banks, which are always owned by members of the upper class to be sure, are taking houses, cars and property of the lower classes, simply because the money they created out of thin air in the form of a loan is not being returned to them.

(c) **Inflation** is generally defined as ‘The rate at which the general level of prices for goods and services is rising, and, subsequently, purchasing power is falling.’²⁵... Contrary to popular belief, most loans are not given from a bank's existing deposits. They are invented in real time, limited only by a set percentage of their existing deposits... This *pyramiding* of money, coupled with the interest pressure that creates scarcity in the money supply, reveals that the system is *inherently* inflationary.

(d) **Income differences across society:** It has been found that in the United States alone, the top 0.1 percent of the population earns about half of all capital gains, and such gains account for about 60 percent of the income of the top 400 richest citizens... Like the elitism of high level interest income, capital gains are a class securing mechanism fueled by pre-existing substantial wealth... In a study performed by the Canadian Centre for Policy Alternatives, it was found that Canada's top CEOs make an average worker's yearly salary *in 3 hours*.”

PART III: A NEW TRAIN OF THOUGHT

-INTRODUCTION TO SUSTAINABLE THOUGHT-

Socioeconomic Spectrum

“...sustainable practices can only come about by a value re-orientation towards *sustainable thought*... This hence becomes a process of education... The term ‘socioeconomic’, which is the social science that links the effects of economic activity to other social processes²⁶, could have its meaning more specifically extended to also include religious views, political biases, military initiatives, tribal loyalties, cultural customs, legal statutes and other common societal phenomena.”

²⁵ Source: Investopedia.com (<http://www.investopedia.com/terms/i/inflation.asp#axzz2JypjmRJs>)

²⁶ “Socioeconomic” is defined as: “of, relating to, or involving a combination of social and economic factors” (Source: <http://www.merriam-webster.com/dictionary/socioeconomic>)

Ephemeralization

R. Buckminster Fuller argued that true economic ‘wealth’ is not money or even the material outcome of a given production.²⁷ Rather, true wealth is the level of energy/production *efficiency enabled*, coupled with knowledge development that furthers the *intelligent management* of the Earth's resources. In this view, he defined and expressed a trend termed ‘ephemeralization’ which tracks humanity’s technical ability to increasingly do ‘more with less’... this trend of ephemeralization, having increased rapidly from the 20th century's almost sudden industrial/scientific advancements, ...[suggest a] new, paradigm-shifting possibilities for human organization. These possibilities... reveal that we are now able to take care of the entire world's population at a standard of living unknown to the vast majority of humanity today. However, in order for this new reality of *efficiency* to be harnessed, the archaic barriers ingrained in our everyday way of life, specifically our perception of economics, need to be re-evaluated and likely overcome entirely...

System Limitation

“The limitations imposed by our environment exist irrespective of human values, interests, wants or even needs. ...No matter what we think about ourselves, our intentions or our ‘freedoms’, once we are placed into this *system of physical law* we are bound to it regardless of our beliefs or the cultural norms. ...we now understand that we either align with the natural world, or we suffer... within this rational ‘box’ of system limitation we define as the ‘governing laws of nature’ *our range of possibility within these boundaries via the scientific method also reveals an ever-increasing technical efficiency and incredible potential to create an abundance to meet human needs, globally...* If the purpose of a social system is to create an ever increasing standard of living, while also maintaining environmental and social balance to assure we do not reduce this quality in the future ... it then becomes critical to base our methodology on the most relevant set of technical parameters we can, oriented around the current state of *scientific awareness* on both an ecological and human level.”

-POST SCARCITY TRENDS, CAPACITY AND EFFICIENCY-

Evaluating Design

“...The technical order we see in the world today is mostly the result of financial processes that have little to no perception of larger scale structural outcomes. It is more of a *proxy system*. While there are some relative exceptions, even those circumstances are often working *around* pre-existing property claims and other forms of interference which tend to reduce *design efficiency* on the whole... one might begin to realize the enormous level of unnecessary waste and technical inefficiency inherent to such a short-sighted process.

To consider this more so, two points are worth considering:

a) Existing yet Unapplied Solutions

...Many new innovations for problem resolution go unapplied within the current economic tradition

b) Broad Conception vs. Spontaneous Conception

... globalization, in its current form, is highly inefficient compared to other possibilities... competing corporations today tend to create *custom systems* that are incompatible with the developments of other producers in that same *good genre*. ‘Universal compatibility’, or lack thereof, is... another example that the by-product of this market ‘proxy’ game and the larger order system inefficiency and waste is enormous.”

²⁷ Fuller States: “Wealth...is inherently regenerative. Experimentally demonstrated wealth is: energy compounded with intellect's knowhow.” From *Utopia or Oblivion*, R. Buckminster Fuller, Bantam Press, NY, 1969, p.288

Design Efficiency

“If we break down the everyday complexity of our lives today, dissecting what interplay is most critical to human survival, sustainability and prosperity, we might find three basic things: science, natural law & resources... With respect to the development of *design*, these three attributes are naturally indispensable to each other. ...The history of industrial design is, in many respects, the *true history* of economic development... it could be argued that there are three central efficiency contexts related: (a) labor efficiency (b) material efficiency and (c) system efficiency.

(a) **Labor efficiency:** Since the early 20th century ... *mechanization*, was able to elevate the workforce [to] a position of tool utilization... by the end of the 20th century, this pattern continued to advance, where such machines... were able to make *decisions* as well. ...These modern machines are now greatly surpassing, in productivity, the vast majority of the actions historically held by human beings and there appears to be no slowing down of this trend. Overall, TZM views this trend as a powerful means by which the human species can [generate] a level of human freedom never before seen, if adapted properly.

(b) **Material efficiency** is how well we utilize the raw materials of the Earth. Materials science *also* has a unique history unto itself, with each period of time discovering new patterns and possibilities... perhaps the most important discovery in materials science understanding ... was the set of chemical elements ...as organized via the “periodic table”, [The] building blocks of everything we experience as tangible in the world around us. ...Nanotechnology ...appears quite concrete in its theoretical basis of assembling and disassembling different materials, and even systems of materials ... from the atomic level. ... [It] applies mostly in the context of what are called ‘smart materials’ or ‘meta-materials’. ...The current state and trends of materials science hold profound possibilities for the present and future.

(c) **System efficiency** is likely the most crucial and important of all concepts for... everything we know of is a system *itself* or an interaction of two or more systems. Perhaps the best way to express system efficiency is to consider any commonplace act and think about how that act could either reduce waste or increase productivity on any and all levels, not just within the context of the perceived singular act itself... This manner of thought stands at the heart of a *systems theory* type worldview. ...Virtually everything we find in nature is deeply integrated and in balance due to the refining nature of evolution itself. ...Working to facilitate the most *optimized integration* we can, ideally *reusing everything* on all levels, just as nature does, should be a societal goal to ensure sustainability and efficiency.”

Established and Potential Trends

“There are two broad, basic trends/realities to consider in the world today [:]... ‘established’ and ‘potential’. *Established trends* are the socioeconomic trends in play at the time of this writing and these... are shown to be almost entirely negative. The *potential trends*, on the other hand, reveal life-improving and balance-creating possibilities that *could* occur, if larger order social changes were made. ...Overall, it is the view of TZM that if these current ...trends persist ...human culture will, not only not achieve the positive application of the *potential* trends expressed, increased destabilization will continue to occur.”

Post-Scarcity Worldview

“...every ...public dissent and revolution, ... [every] crime, terrorism, addictions and other social problems, are [all] born out of deprivation, whether absolute or relative and this deprivation is inherent to the nature of a society based on competition and scarcity [and ignoring] the true nature of what ensures social harmony, stability, and public health. That aside, below is a list of current life support realities available to the global population that have gone unharnessed due to inhibiting factors inherent to the market economy...

1) Food Production: Current production methods already produce more than enough food to feed all human beings on earth.

- 2) Clean Water: Desalination and decontamination processes currently exist to such a vast degree of application that no human being, even in the present state of pollution levels, would ever need to be without clean water, regardless of where they are on earth.
- 3) Energy: Between geothermal, wind, solar, and hydro, coupled with system-based processes that can recapture expelled energy and reuse it directly, there is an absolute energy abundance which can provide for many times the current world's population.
- 4) Material Production/Access: ... With proper *system incorporation* of each genre of production, coupled with *optimized regeneration* processes and a total transformation from the use of property rights to a system of *access rights*, it is clear that all known good functions (in the form of product) can be utilized by 100% of humanity, on a per need basis, in access abundance.”

Carrying Capacity

“Carrying capacity is defined as ‘the maximum, equilibrium number of organisms of a particular species that can be supported indefinitely in a given environment.’²⁸ ... the number of people the Earth can support is highly variable and based, in part, on the current state of technology at a given time and the more we progress our scientific and technical understanding, the more people we tend to be able to support, with less energy and resources applied per person. ... If current regions of accelerating population growth are analyzed, it is found that those existing in deprivation and poverty are reproducing faster than those who are not in poverty. ... This evidence suggests that increasing people's standard of living can curtail their rates of reproduction and this furthers the social imperative to create a more equitable system of resource allocation.”

-TRUE ECONOMIC FACTORS-

Overview

“In Greek, *economy* means the management of a household.²⁹ The defining qualitative attribute of an economy is its level of ‘efficiency’ ... this form of efficiency relates to *physical systems* – not the inter-workings of ‘money’, the ‘market’ and other arguably cultural contrivances.

General Systems Theory

“...binding all systems are what could be termed ‘generalized governing principles’. In scientific terms, a ‘generalized’ principle or theory is a foundational characteristic or assumption that governs an entire system. ... When the *systems worldview* is truly understood in its profound ramification of immutable interconnectedness and hence interdependence/co-responsibility of literally everything in the known universe, traditional cultural notions based on human or social division ... can create nothing but confusion, maladjustment and conflict in the long-term.” Examples of these are, “religious loyalty, race loyalty, class, nation states, patriotism and other manifestations born from a world arguably ignorant of this reality in the past”. ... Sadly, our educational system today has been shaped and structured *not* to create well-rounded understandings of the world, but rather directs focus to isolated and narrow specialties, which reduce systems comprehension consequently. ... The creation of an economic model is really a process of structural alignment with the existing ecological system already in play on the planet earth.”

²⁸ Carrying capacity defined: <http://dictionary.reference.com/browse/carrying+capacity>

²⁹ The term 'economy' in Greek [Oikonomia] means the "management of a household; thrift" - hence to e·con·o·mize, or “increase efficiency”.

Social Goals

“Below is a list of general ... social ‘goals’ which this new economic model would work to meet. ...Overall, they are component goals of the pursuit to *increase quality of life* for the whole of humanity, while maintaining true sustainability in the long run:

- (1) **Optimized Industrial Efficiency**; Active Pursuit of ‘Post-Scarcity Abundance’.
- (2) **Maintain Optimized Ecological/Cultural Balance & Sustainability**.
- (3) **Deliberate Liberation of Humanity from Monotonous/Dangerous Labor**.
- (4) **Facilitate Active System Adaptation to Emerging Variables**.

Acknowledging the emergent reality of intellectual and industrial evolution is critical. ...Many practices that might be deemed ‘sustainable’ or in accord with public health today, might very well be found to be detrimental in a relative or absolute sense in the future. ...Therefore, the industrial/economic system must be dynamically updatable, enabling rapid error correction and improvement as progress unfolds. Change in general is extremely slow in the modern period in this regard due to the *paralysis* that originates from the preservation of market share and group power.”

Macroeconomic Factors

“At the core of the macroeconomic approach rests the method of thought and analysis itself. This is ‘The Scientific Method’. Science gives a vehicle to *arrive at conclusions*, not ‘make them’, and it is this *system-based logic* where all economic decisions are to be oriented regarding both possibilities and restrictions. Inherent to The Scientific Method in the context of ‘macroeconomic policy’ for a NLRBE [(Natural Law/Resource Based Economy)] are what we could consider *Earth-wide* recognitions. These components have to do essentially with the following:

- (1) **Global Resource Management** is the process of tracking resource use and hence working to predict and avoid shortages and other problems... this system has to do primarily with tracking the rate of natural generation to maintain *dynamic equilibrium*.
- (2) **Global Demand Assessment** is the process of realizing the demands of the human population. ...The process of engagement in a NLRBE deals explicitly with creating awareness of new technical possibilities as they emerge, while also allowing public consensus to decide what is of interest to produce. ...A purely technical/interactive system is established which works... similar to the notion of ‘direct democracy’. ...With the exponential increase in computer-based calculation power, this type of societal ‘thinking’ is now possible.
- (3) **Global Production and Distribution Protocols** address the reasoning by which the overall industrial system is to be laid out in the context of Earth surface infrastructure. ... Once goods are created, they are to be made available regionally in the most efficient way possible, based on *demand* and *proximity*. Once established per regional needs, distribution has three basic components:
3b1) **Facility Location** (Proximity principle), 3b2) **Method of Access** (Library/sharing system), 3b3) **Tracking/Feedback** (modern inventory systems)

Microeconomic Factors

Microeconomic considerations in this new model revolve around the actual methods of good design and production itself:

- 1) **Product Design Efficiency** (relates to the integrity of design itself.)

Five component factors are relevant here:

- 1a) Optimized Durability, 1b) Optimized Adaptability, 1c) Universal Standardization, 1d) Integrated Recycling Protocols, 1e) Conducive for Automation

- 2) **Means of Production Efficiency**

Human labor involvement, while still necessary even in more advanced phases, [will be] reduced to broad oversight of these automated systems as they are established. Factories are also no longer bound by traditional [time] restrictions. These systems could now function 24 hours a day, seven days a week, if needed.”

-THE INDUSTRIAL GOVERNMENT-

Political vs. Technical Governance

“The nature and unfolding of the politically driven model of representative democracy, legislation creation and the sanctioned enforcement of law, are all borne out of natural tendencies inherent to the act of commerce and trade, operating within a scarcity-driven social order.”

Throughout the history, “as regional populations grew and ... resources often became more scarce, a security and regulatory practice manifested to protect a community's land, property, trade integrity and the like. The use of an ‘army’... became standardized, along with an adjacent legal or regulatory authority complex... the dyad of state and market synergy is, in reality, a single power system in play, at once.

...all business dealings have historically required some level of legal mediation. This is because all transactions are a form of competition and all competition invites the possibility of fraud or abuse within the bounds of the scarcity-based market.

The government model TZM advocates, will “remove the edifice of representative government and replace it with a kind of participatory democracy. This participation is mediated through digital communication methods that can bring the interests of the whole community into calculation.”

Economic Model Defined

“If one has studied traditional or market-based economic modeling, a great deal of time is often spent on things such as price trends, behavioral patterns, inflation, the labor market, currency fluctuations, and so forth. Rarely, if ever, is anything said about public or ecological health. ...Because the market is life-blind and decoupled from the actual science of life support and sustainability. Therefore, the best way to think about a NLRBE is not in the traditional terms of any form of market-oriented economic model common today. Rather, this model can best be thought about as an *advanced production, distribution and management system*, which is democratically engaged by the public, through a kind of ‘participatory economics’.”

Goals, Myths & Overview

“Market capitalism's structural goal is growth and maintaining rates of consumption high enough to keep enough people employed ... A NLRBE's goal [, on the other hand,] is to optimize technical efficiency and create the highest level of abundance possible, within the bounds of Earthly sustainability, seeking to meet human needs directly.”

Myth: “NLRBE is ‘centrally planned’. What this assumes, based on historical precedent, is that an elite group of people will make the economic decisions for the society.” **To Address:** “A NLRBE is not centrally planned. It is a Collaborative Design System (CDS). It is based upon public interaction, facilitated by programmed, open-access systems that enable a constant dynamic feedback exchange that can literally allow for the input of the public on any given industrial matter.”

Confusion: “who programs the system?” **Answer:** “everyone and no one. The tangible rules of the laws of nature, as they apply to environmental sustainability and engineering efficiency, are an objective frame of reference... the general principles of efficiency and sustainability remain, as they have been deduced by basic physics, along with several thousand years of recorded history by which we have been able to recognize basic, yet critical patterns in nature. ...Moreover, the actual programming utilized by this interactive system would be available in an open source platform for public input and review.”

Question: “Are the ‘means of production’ privately owned or not?” **Answer:** “The means of production refers to the non-human assets that create goods, such as machinery, tools, factories, offices and the like. In capitalism, the *capitalist* owns the means of production. ... There has been an ongoing argument for a century that any system that does not have its means of production owned as a form of private property, using currency as the information mechanism, is not going to be as economically efficient as one that does. This, as the argument goes, is because of the use of the price mechanism. ... [Therefore,] the reasonable question becomes: is it possible to create a system that can more efficiently facilitate feedback with respect to consumer preference, demand, labor value and resource or component scarcity, without the price system, subjective property values or market exchange? The answer is yes. The modern solution is to completely eliminate exchange and create a direct control and feedback link between the consumer and the means of production itself. The consumer actually becomes part of the means of production and the industrial complex as a whole becomes a tool that is accessed by the public, at will, to generate goods. To illustrate this... when a file is sent to print from the computer, the user is in control of a miniature version of a means of production. Likewise, in some cities today, there are now 3D printing labs, where people in the community can send their 3D design and use these machines to print what they need in physical form. The model being presented here is a similar idea. The next step in this scaling process is the creation of a strategically automated industrial complex, localized as much as possible, which is designed to produce, through automated means, the average of everything any given region has found demand for. As will be described, this is very feasible given the current state of technology and the ephemeralization trends at hand.

Structure and Processes

“[\[Figure 1 in Appendix A\]](#) shows the linear schematic of the industrial process, moving from design to production to distribution and recycling. [\[Figure 2 in Appendix A\]](#) shows how an optimization of such efficiency can be considered from a mathematical point of view, as a minimization or maximization of some functional.

Collaborative Design Interface

“Design is the first step in any production interest and this [suggested Collaborative Design Interface] can be engaged by a single person; ... a team; [or] by everyone. It is open source and open access and it would come in the form of an online web interface... all submitted designs... are stored in an open access, searchable database,... available for others to use or build upon... digital designs that can be sent into production at any time, on demand. This design creation and proposal system is how demand itself is assessed. Instead of traditional advertising ... this system works in an opposite, more involved and democratic manner. In this new... approach, the entire global community has the option of presenting ideas for everyone to see, weighing in on and building upon designs, harnessing the power of collective experience and global knowledge. The mechanism of the CDI would come in the form of interactive interface[s]... these programs are able to digitally create and represent any given product design, containing all information as to how it should be made in final, physical manufacturing. ... The benefit of this cannot be emphasized enough as a collaborative platform. ... Literally millions of minds can be brought together to accelerate any given idea in this approach. ... Likely not everyone would want or need to be a designer. Many people would be satisfied enough by what had been set in motion already by others, with perhaps minor customization along the way.”

Optimized Efficiency Standards:

“Efficiency standards are standards by which a given design must conform. This evaluation will be calculated automatically, or algorithmically, by the CDS's programming. This can also be thought of as a *filtering* process. In short, any proposed design will be digitally filtered through a series of *sustainability* and *efficiency* protocols which relate not only to the state of existing resources, but also to the current performance of the total industrial system.

These would include the following ‘efficiency standards’.

- a) Strategically Maximized Durability
- b) Strategically Maximized Adaptability
- c) Strategic Standardization of Genre Components
- d) Strategically Integrated Recycling Conduciveness
- e) Strategic Conduciveness for Labor Automation”

$$E_{design} = f_{design}(t_d, A_{design}, c_r, N_c, H_L)$$

The Industrial Network

“The industrial network refers to the basic network of physical facilities that are directly connected to the design and database system just described. The system connects servers, production facilities, distribution facilities and recycling facilities.

Design Servers: These computer servers connect the design database to the designers/consumers, while constantly being updated with relevant physical data to guide the process of product creation in the most optimized and sustainable way.

Production Facilities: These structures facilitate the actual manufacturing of a given design. These would evolve as automated factories that increasingly are able to produce more with fewer material inputs and fewer machine configurations... The number of production facilities... would be strategically distributed topographically based on population statistics, no different than how grocery stores today try to average distances between pockets of people around neighborhoods. This is the ‘proximity strategy’.

Distribution Facilities: Distribution can either occur directly from the production facility, usually in the case of an on-demand, one-off production for custom use, or sent to a distribution *library* for public access in masse, based on regional demand interest.

Recycling Facilities: Recycling Facilities would likely exist as part of the production facility, allowing access to returned parts for updating and reprocessing. As noted in the design protocol, all goods have been pre-optimized for 'conductive recycling'. The goal here is a zero-waste economy.

Global Resource and System Management: These four facilities are also connected, to one degree or another, to a *Global Resource Management* (GRM) network, which is a sensor and measurement system that provides feedback and information about the current state of raw materials and the environment.”

Resource Management, Feedback & Value

“This computer-aided design and engineering process... [will be] connected to the design process, literally built into [an] ‘Optimize Design Efficiency’ function, [with] dynamic feedback from an Earth-wide accounting system that gives data about all relevant resources which pertain to all productions... maintaining equilibrium with the Earth's regenerative processes, while also working strategically to maximize the use of the most abundant materials, while minimizing anything with emerging scarcity, is a critical efficiency calculation. ...As far as ‘value’ calculation, perhaps the two most important measures, which will undergo constant dynamic recalculation through feedback as industry unfolds, is the level of (a) ‘scarcity’ and the degree of (b) ‘labor complexity’.

(a) ‘Scarcity value’ can be assigned a numerical value, from 1-100. 1 would denote the most severe scarcity with respect to the current rate of use and 100 the least severe. 50 would be the steady-state dividing line. The scarcity value of any given resource would exist at some value along this line, dynamically updated by the Global Resource Management network.

(b) Likewise, ‘labor complexity’ and its assessment simply mean estimating the complexity of a given production and drawing a numerical value based on the degree of process complexity. ...In the event a given process value is too complex or hence comparatively inefficient in terms of what is currently possible (by comparison to an already existing design of a similar nature), the design would be flagged and would hence need to be re-evaluated.”

The Domestic Economy

“Given the technological trends, it is not far-fetched to imagine a small town which, just as it may today have an electrical grid [as] its central source of power, now has a production plant network designed to ... create most everything that town may need, on demand. Raw resources are brought into the plant as per conditions and allocation algorithms surrounding the ‘global resource management system’, which connects all such economic facilities both regionally and globally. ... While the pursuit of post-scarcity ... will create a sustainable and abundance generating paradigm where people can live without the burden of ‘working for a living’, the debate over ‘what will people do?’ is a question that often arises, along with another inevitable question: ‘Who is running the machines for no pay!?’ ... People have always found interesting things to do and explore, and it is severely doubted that an era of boredom would arise given that people would no longer need to fight just to live a high quality life. Rather, people might very well be elevated to a new type of existence and engage in higher order interests that were simply unattainable in the prior model.” Another question or objection that comes up is that “there will still be some basic need for oversight and management. For many who shun post-scarcity rhetoric, this fallback is common, arguing that only in a 100% automated utopia, where people literally have no obligation, would the society be possible. Otherwise, some sub-culture will be required to do the remaining labor and hence some kind of stratified oppression would be inherent. The problem with this assumption is that it is deeply locked into a market-oriented worldview where time is equated to money. The truth of the matter is that human beings, even in the highly competitive and materialistic orientation of the United States, still decide to do a great deal without an interest in monetary reward. Open source programming is [an] example... Linux, which started in 1991 as a simple experiment, was able to complete its community-driven, almost moneyless programming development in just three years. ... Wikipedia took 100 million hours of volunteer time to create, and features a technically advanced and complex backend, demonstrating that well-engineered interrelating systems, when leveraged with large volunteer efforts, can create world-first systems previously considered unrealistic or unfeasible... people have proven they will contribute greatly to projects which have no monetary return and the real issue underlying the motivation of such labor is the satisfaction and the *feeling of contribution*. ... In a NLRBE, such labor would be relegated in the same gesture. ... Once set free, the creative, collaborative contribution propensity itself, which is the true driver of progress, will no longer be inhibited by the monotony of labor or the income system. It is very difficult to predict the incredible level of productivity and focus a society may achieve once such oppressive factors are removed.”

The Decentralization Paradox

“So, this network might very well be ‘centralized’ in its data and raw resource flow to a city’s internal production facilities, but it is *decentralized* in that a city imports nothing else. ... This idea of ‘self-containment per scale degree’ is important and even applies towards structures, such as houses. The ideal house would be off-the-grid and self-contained in its energy sourcing and with redundant backup energy sources in place should anything become compromised. Put another way, there is no central ‘off switch’ in such a natural redundancy based system. Likewise, no one thing can upset the international system. ... A problem in one city has little effect on any other city in a NLRBE.

So, in truth, a properly organized NLRBE is not centralized in any real sense. It is more accurate to say that it is a global decentralized system, with various degrees of inherent redundancy, which, degree by degree, connects itself by information flow and physical channels to acquire proper resources, to be used for each region’s local economy.”

-LIFESTYLE, FREEDOM AND THE HUMANITY FACTOR-

What is happiness?

“So much of our lives today is centered around staying financially ahead ... [that] we often lose sight of what it is that actually creates well-being and happiness. ... The competitive, scarcity-driven orientation toward gaining an acceptable quality of life continually reinforces our lower brain, ‘fight-or-flight’ propensities, perpetuating a constant sense of social detachment and general loss of empathy for others. ... Therefore, given these values, it is always a challenge to discuss a NLRBE's non-market premise with the vast majority of those in modern culture. ... As the idea of existence without such strife is almost impossible for many, due to our history.”

Merging Society and Individuality

“Martin Luther King Jr. once said: ‘Communism forgets that life is individual. Capitalism forgets that life is social, and the kingdom of brotherhood is found neither in the thesis of communism nor the antithesis of capitalism but in a higher synthesis. It is found in a higher synthesis that combines the truths of both.’³⁰ ... Perhaps the most important sociological outcome of a NLRBE is something historically unprecedented on a large scale in the history of human society. Today... we ... have the ability to structurally rationalize ourselves as being *actually responsible to each other* and *the Earth itself*. NLRBE ... structurally, combines societal interest with personal interest and environmental interest. Its functioning is directly tied to the resources and environment, actually *rewarding* sustainability and efficiency. Likewise, ... Theft, crime, fraud and all structural outcomes common to the scarcity-based market, will no longer have any real incentive as the entire society is oriented to *serve itself*, and *harming others only harms one's self*.”

Humanity Factor & Access Rights

“There is an unpredictable element to human development. ... We simply cannot account for all relevant factors. While a great deal has been learned about human influences and how certain things *should* and *should not* happen to a person during development, as they have statistically predictable consequences with respect to behavior, there is always a possibility of things going wrong that are out of a family or society's control. We can call this the ‘humanity factor’. ... This ‘humanity factor’ can generate unexpected circumstances and problems that require a socially accepted course of action. A simple example is mental illness. ... It is a medical problem and must be treated as such. A volunteer group working to help those sick in the behavioral context would need to be in place. ... However, this team would be a vast departure from ... idea of ‘police’ and ‘security’ we see today. ... There are certainly no prisons existing. ... Even in the case of ‘crimes of passion’ or the like, the worst scenario is containment if the individual is unable to control destructive actions. However, in some cases ... a simple rule system of some kind might be useful, centered not on *property rights* but *access rights*. ... [This] simple access rights rule, could be installed to deter [unacceptable] behavior. ... Any person obtaining items through the system would have *access rights* to those items for the duration of use and if another comes and takes those items, it is an offense. Reinforcement to deter such future acts would first be warnings. If persisted over time, it could mean a temporary limitation of future access in some genre for that offending person.

Crisis management is another issue. In the case of an earthquake, flood, tornado or the like, each case would naturally have a plan in place by the society to assure proper handling. This preparation can cross regional lines as well, with contingency plans agreed upon on the global level to know how the rest of the world may help if a given region has a severe problem... underlying

³⁰ From “Where Do We Go From Here?,” Delivered at the 11th Annual SCLC Convention Atlanta, Ga., 1967 (http://mlk-kpp01.stanford.edu/index.php/encyclopedia/documentsentry/where_do_we_go_from_here_delivered_at_the_11th_annual_sclc_convention/)

precondition set in motion by the NLRBE, will dramatically reduce the commonality and severity of each issue and that is important to remember.

PART IV: THE ZEITGEIST MOVEMENT

-SOCIAL DESTABILIZATION AND TRANSITION-

Trends

“The early 21st century marks an extremely interesting period of time. On one side we see many clear and present problems that... show an accelerating gravitation toward further negative consequences, both environmental and social. Yet, on the other side, an ever present and accelerating solution orientation, technically, reveals so much potential to change course for the better, positive future possibilities appear profound and limitless. ...Virtually *all life support systems are in decline*.^{31 32} It really doesn't matter how many people have achieved ... upper-class lifestyle if it is occurring on the back of unsustainable methods. It is simply a matter of time before the effects of resource depletion; biodiversity loss and pollution evolve to destroy this *illusion* of success. ...There is little doubt that if the world was faced with real energy, water, food and mineral scarcity, to the extent that it would deeply affect the economies of larger national powers, we would regress rapidly back to mass global warfare and mass casualties, not to mention massive civil unrest as well. Today, all major superpowers continue to increase armaments and weapon power clearly in preparation for such events... [Science and technology] can... be used *locally* and *narrowly*, within the context of the distorted incentive structure the market perpetuates, to create and accelerate destructive and inhumane consequences.”

Population & Resources

“Statistics suggest that well over nine billion people will inhabit Earth by 2050³³, sourced mainly in the developing world. Along with this come dramatic increases in demand for (a) food, (b) water, (c) energy, and (d) minerals/material resources.

(a) As far as food, there is no shortage of studies that project that our traditional food production methods are not going to come close to meeting demand by 2050.^{34 35} Estimates put production needs at a 60 to 110% increase³⁶ and given the current industrial climate which also has an extremely wasteful and inefficient supply chain, wasting 30-50% of all food created,³⁷ the only logical expectation is a worsening of the global poverty and starvation levels in terms of population percentage.

(b) Potable water statistics are equally if not more dramatic and ... water scarcity means even more problems for traditional agriculture. According to the United Nations, by 2025, an estimated 1.8 billion people will live in areas plagued by water scarcity, with two-thirds of the world's population living in water-stressed regions³⁸...Likewise, water *pollution*, which further compounds the problem, is on pace to continue as developing countries increase industry and agriculture in their interest to raise their overall standard of living.

³¹ Reference: *Data shows Earth's systems in decline* (<http://www.bbc.com/bt/science-technology/2011/08/01/data-shows-earths-systems-decline>)

³² Reference: *Study highlights global decline* (<http://news.bbc.co.uk/2/hi/science/nature/4391835.stm>)

³³ Source: *World population projected to reach 9.6 billion by 2050 – UN report* (<http://www.un.org/apps/news/story.asp?NewsID=45165#.UtyMb2TTm2w>)

³⁴ Source: *Food Security Raises the Obvious: Can We Feed 9.6 Billion by 2050?* (http://www.huffingtonpost.com/michael-zacka/food-security-raises-the-b_3948986.html)

³⁵ Source: *Yield Trends Are Insufficient to Double Global Crop Production by 2050* (<http://www.plosone.org/article/info:doi/10.1371/journal.pone.0066428>)

³⁶ Reference: *Current Global Food Production Trajectory Won't Meet 2050 Needs* (<http://www.sciencedaily.com/releases/2013/06/130619195135.htm>), UN: *farmers must produce 70% more food by 2050 to feed population* (<http://www.theguardian.com/environment/2011/nov/28/un-farmers-produce-food-population>)

³⁷ Source: *Feeding the 9 Billion: The tragedy of waste* (<http://www.imeche.org/knowledge/themes/environment/global-food>)

³⁸ Source: *A Clean Water Crisis* (<http://environment.nationalgeographic.com/environment/freshwater/freshwater-crisis/>)

(c) As far as energy... there is literally nothing positive about any fossil fuel combustion process when it comes to environmental sustainability. Compounding this is also the fact that such resources are *non-renewable* and ensuing scarcity is simply a matter of time. ...Besides helping push us toward global warming catastrophe, oil shale and tar sands development destroys species habitat, wastes enormous volumes of water, pollutes air and water, and degrades and defiles vast swaths of land. ...Likewise, hydraulic fracturing or “fracking” has been found to be exceptionally polluting and dangerous with even recorded instances of ground water being so polluted that home water supplies have become literally *flammable*.³⁹

(d) General resource scarcity, embracing both biotic and abiotic resources, is rapidly increasing globally, coupled with a parallel loss of *biodiversity*.⁴⁰ ...Today, one could search through all peer reviewed scientific documents in the world and likely not find one review of humanity's resource and biodiversity relationships that are neutral or positive...It is important to remind the reader, however, that this problem is a system issue, not an immutably empirical one. The problem is not our mere existence or a growing population. The problem is that we have a global economic tradition in place rooted in 16th century, pre-industrial handicraft oriented thought that places the act of consuming (buying and selling) at the core of all social unfolding.”

The Perfect Storm

While the preceding sections have addressed specific, major issues in some detail, we cannot overlook the economic synergy which links them all in the financial and technical systems related. Energy, water, food and material accessibility interlock into one societal mechanism, which can have dramatic effects on employment, social stability, and many other issues if any one of them is disturbed. ...So, we have to ask ourselves: how possible is it that we are going to be able to financially facilitate the vast technological reforms needed to generate some degree of sustainability when it is clear that massive overhauls of our agricultural system, water processes, pollution control, energy sources, infrastructure and industrial methods are desperately needed? We know we have the technical means to do it, but do we have the money?

The more one thinks about this latter question, the more incredible and outright idiotic the financial mechanisms in play become.”

Transition

“The idea of *transitioning* fluidly out of the current model into a NLRBE can be a daunting and difficult speculation. Perhaps the first consideration is to think more deeply about what it is we are transitioning into exactly. ...This move from a scarcity-preserving economy to a system ... in the pursuit of a post-scarcity or abundance economy to meet the needs of the human species, while securing the integrity of the habitat, is really *a transition of values*. At the same time, it is also a transition of *operant reinforcement*, which ... means the new structure actually works to *reward* conservation, balance, social contribution and ecological respect. ...TZM naturally views the shifting of people's values as the most important necessity for transition. How this is done is deeply related... to education, while also attempting to actively create conditions that... reinforce these new, sustainable values. ...many who criticize The Zeitgeist Movement do so not because they disagree with the direction but because they do not understand how to get there. ...The difficulty or confusion in transitioning into a NLRBE does not remove the necessity for it. ...Furthermore, it's also important to note that *we are always in transition* to one degree or another. There are no utopias and even if we accomplish only 50% of such a move, as we may define it in theory, it would still be well worth it.

³⁹ Reference: *Fracking hot: N. Dakota man 'sets tap water on fire'* (<http://rt.com/usa/flammable-water-dakota-fracking-023/>)

⁴⁰ Source: *Global Biodiversity Outlook 3* (<http://www.cbd.int/gbo3/>)

Scenario One: Systematic Dismantling

“A systematic move from the market economy to a NLRBE could theoretically occur through a step-by-step ‘socialization’ of the core attributes of the societal infrastructure. Essentially, we dismantle one layer while implementing a new one in the most fluid way we can. ...This simply means that the necessity of money and the market mechanism would no longer apply to the given social attribute. ...Direct, advanced technical means would produce and distribute without a price tag, meeting these needs directly. ...[We should] produce a high standard of living [using the] modern technology and a systems approach to social organization based on strategic technical efficiency. ...The more technically efficient the system becomes, the less traditional labor is required. Therefore, in a transition starting from within the market economy, measures to compensate for this financial loss are required. These can consist, in part, of the *adjustment of wages* to compensate for job losses, along with the *shortening and sharing of the workweek* to also compensate. The core societal attributes to be discussed for this exercise consist of (a) food production, (b) utilities, (c) basic good production and (d) transportation.

(a) **Food Production:** The technology for high efficiency, automated food production is now a reality today, with vertical farm technology and low energy/low impact cultivation methods such as hydroponics, aquaponics and aeroponics. Desalinization processes, for example, could enable the building of these vertical farm facilities along most major coastlines, producing organic food in quantities to meet and exceed the needs of the regional population.

(b) **Utilities:** Given the advanced state of renewable energy means such as solar, tide, wind, geothermal and the like, coupled with advanced localization means, there is no reason any of us would need to pay for energy if the system was properly designed. The same phenomenon also assists with natural gas and water utilities. Since electricity can be used to replace gas for heating and most other utility purposes, its use can simply be *designed out* in this context. Water, which is of a generally nominal financial expense today in the West, can be made dramatically more abundant via further industrial efficiency to recede pollution and maintain a regional surplus by strategic use. Those who do have water shortages in the world have had technical resolutions for years via desalinization and other purification systems, both on the large scale and small scale. It has been, again, the lack of financial resources that have caused the problems, not the lack of technical ability.

(c) **Basic Good Production:** In this, primitive versions of the Collaborative Design System, as described at length in the essay *The Industrial Government*, could also gain traction. While certain limitations would occur given the absence of larger order cooperation, the inching in of this process would set the stage for larger incorporation while also increasing sustainability.

(d) **Transportation:** ...with a strategic move to simply stop from wasteful 9-5, 5 day workweek, traditional travel to work and back would create a great alleviation of pressure on many levels. ...[This,] coupled with sharing systems for vehicles and liberal mass transit, would profoundly change the nature of transport infrastructure, easing into the foundation of a NLRBE, even if some of those services still need money to pay for them.”

Scenario Two: The Real World

“... let's now take a *realistic* look at what a transition to this new society may hold given the complex and dichotomous reality we endure today. ...the intention of social and environmental sustainability has been developing under the surface of culture for a long time. ...While our current social system, as argued, often reinforces the opposite of those values, it still seems that deep down most of our core historical philosophies still suggest an interest in social equality and sustainable balance. ...In order to really create a more sustainable, humane world, a *complete move* out of the current social architecture is required. ...To do this, global social movement tactics become critical to put *pressure* on the existing system, along with helping change the intents and values of the culture itself by vast education and communication projects. ...TQM focuses on positive pressure influence in its activist work, showing the world what can be done through education and think tank projects. ... The goal here is to not only

facilitate a move to the new model, but to also work to *help* those suffering in the current model, basically bringing them in first in this process of transition. This is done by creating *parallel systems*, which do not use money but still provide helpful services to people. ...For example, the use of mutual credit systems⁴¹ or 'time banks', facilitate a kind of non-currency transactions, often based upon labor only. ...LETS⁴² is an example. ...There are a number of variations of these kinds of systems and they are becoming ever more sophisticated in their programming and malleability. ...TQM Toronto, for example, has a tool sharing network where basic tools exist in a facility, like a library. ...More traditional social policy influencing methods, such as mass online petitions and other such acts are to be viewed as minor in effect but still relevant for awareness. ...There is one specific political lobbying proposal worth mentioning that has been around for a long time. While not a long-term solution in and of itself, its implementation would at least generate improved public health and eliminate general poverty. It is called a 'guaranteed' or 'unconditional income' system. ...TQM's most important activist initiatives are the ever emerging think tank style projects, which literally can work to show a better way. R. Buckminster Fuller once stated 'You never change things by fighting the existing reality. To change something, build a new model that makes the existing model obsolete'. This is the transitional motto of TQM as well.

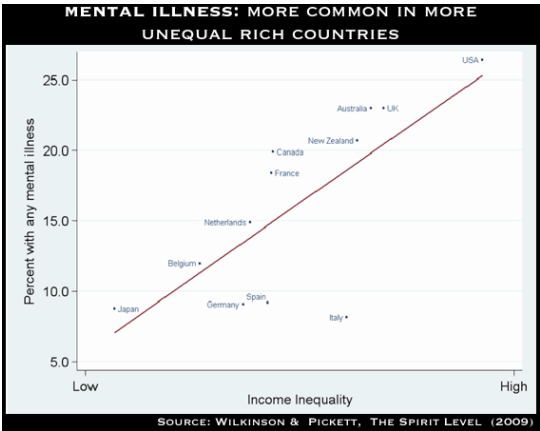
The Lone Country Transition

"Imagine a fairly small country with a vast range of natural resources. ...It is some time in the future and technical progress has been continuing its phenomenon of doing 'more with less'. The result is such that known methods of industrial production now require fewer raw materials – to such an extent that if a well-organized, resource-rich country adapted strategically - there would be no need for imports or exports in that region. The country could be 'off-the-grid'. ...One day a relative of one of the leaders finds his or herself at a TQM conference talking about those very design initiatives and advancements in production methods. This person notifies the leaders of the country and the government takes notice. ...This government, enlightened by what they have learned, decides to take the initiative to incorporate a *localized* NLRBE, as best they can. ...So, the country then adjusts its industrial methods in accord, creates a domestic sensor system and management network to understand its resources and keep equilibrium, fully digests the new industrial capacity to do more with less, also installing the sustainability and efficiency protocol algorithms inherent to the CDS - and they proceed with the new model in full force, literally *stopping all trade* with foreign nations, being self-contained and 100% sustainable in their region, once established. ...So, given this evidence of feasibility and fruitfulness, other adjacent nations begin to understand the vast merit of the new model and decide to take part. This process of *joining* expands the resource network greatly and the more it expands, the more other country's people also see the merit and the more they demand it, and so on. In time, the world unites. ...Now, while this example might be over simplified, also clearly ignoring the international political pressures that most certainly would cause conflict, the reader should be able to understand that it is still a possibility."

⁴¹ Reference: *New Money for Healthy Communities* (http://www.ratical.org/many_worlds/cc/NMfHC/chp12.html)

⁴² Reference: *The LETS System Design Manual* (<http://www.gmlets.u-net.com/design/home.html>)

Appendix A: Charts and Figures



Chart# 1

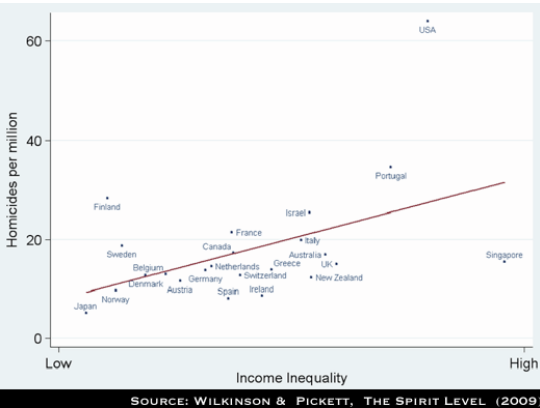


Chart #2

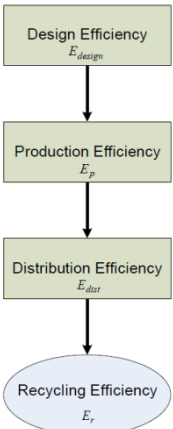


Figure 1. Block-Scheme of System Process

$$f_P(E_{design}, E_p, E_{dist}, E_r) \rightarrow \max$$

Figure 2